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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Helen Ann BIDDISCOMBE :  
Serial No.: 09/960,368 : Group Art Unit: 1771  
Filed: Sept. 24, 2001 : Examiner: D.R. Zirker  
For: Polymeric Films :

RESPONSE

Assistant Commissioner of Patents  
Washington, D.C. 20231

Sir:

This is in response to the Office Action dated November 25, 2002, the period for response to which is set to expire on February 25, 2003.

The examiner has rejected claims 13-36 under 35 U.S.C. § 112, first paragraph, as being not enabled by the specification. Applicant has carefully considered this rejection but it is most respectfully traversed for the reasons discussed below.

35 U.S.C. § 112, first paragraph, sets forth an enablement requirement which requires that the application must contain a written description of the invention and of the manner and process of making and using it, in such full, clear, concise and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention. The standard for determining whether the specification meets the enablement requirement was established in the Supreme Court Decision of *Mineral Separation v. Hyde*, 242 US 261, 270 (1916) which postured the question: is the experimentation needed to practice the invention undue or unreasonable?

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That standard is still the one to be applied. *In re Wands*, 858 F.2d 731, 737, 8 USPQ 2d 1400, 1404 (Fed. Cir. 1988).

In view of the above, it is clear that the sole issue to be resolved is whether the specification enables the subject matter of claims 13-36 so that one skilled in the relevant art can make and use the claimed invention without undue experimentation.

The scope of the invention is determined by the limitations recited in the claims. In this regard it is to be noted that the broadest claim (i.e., claim 13) is directed toward a label which optionally contains an adhesive thereon. The claim requires that the label is made from a polymeric film which is a biaxially oriented polymeric film comprising a core layer of a voided propylene homopolymer having a density of not more than  $0.70 \text{ g/cm}^3$ , and at least one substantially non-voided layer on each surface of the core layer. Most importantly claim 13 requires that the ratio of the combined thicknesses of the non-voided layers on the respective surfaces of the core layer is from 2:1 to 1:1. Applicant submits that the requirements set forth in claim 13 are enabled so that one skilled in the art can make and use the label as presently claimed without undue experimentation.

Each of the aforementioned limitations or technical features of the invention are disclosed in great detail in the specification so as to enable one skilled in the relevant art to make and use the claimed invention and thereby meet the above-noted test for enablement. In this regard it is to be noted that the specification indicates that the films of the invention which include a voided core with non-voided layers on either side thereof, have a tendency for curling and that applicant has discovered that this tendency for curling can be overcome by controlling the relative thickness of the non-voided layers on either side of the core layer. In

other words it is the selection of this relative thickness characteristic which is needed to practice the present invention. The specification clearly shows how one skilled in the art can apply the non-voided layers on either side of the core layer to obtain the advantages of the present invention (a reduction in the tendency for curling). In particular, it is to be noted that the specification describes how to make and use the invention which has the aforementioned non-voided layers which fall within the ratios recited in claim 13. In addition, four examples and one comparative example are provided which demonstrate that the anti-curling advantage of the invention is achieved when the ratios are within the limitations recited in claim 13 and that this advantage is lost when the ratio is above 2:1 (see comparative example 5 on page 8 wherein the anti-curling advantage is lost when the ratio is 2.25:1).

It is also noted in the specification that the films of the invention can be used as labels and thus the film may include an adhesive layer or may be used as an in-mold label (see page 3, lines 7-11). In addition it is further noted in the specification that more than one non-voided layer may be co-extruded onto each side of the core layer (see the second paragraph on page 4 of the specification).

In view of the above, applicant submits that the specification clearly enables one skilled in the art to make and use the labels as presently claimed without undue experimentation since each of the technical features or limitations recited in the claims are described in great detail in the specification. In particular, the most critical feature of the invention which is the ratio of the combined thicknesses of the non-voided layers on the respective surfaces of the core layer, are particularly described and exemplified in the specification. Thus, applicant's specification clearly complies with the above-noted test for enablement.

Nonetheless, the examiner urges that the claims should include the limitation "improved curl resistance" should appear in the preamble of the claim as was done in the parent application. Applicant disagrees. Contrary to the examiner's observation, the claims of the parent application which has now matured into U.S. patent no. 6,306,490, do not recite "improved curl resistance". Instead, the claims of the '490 patent (which the same examiner has determined as being enabled) comply with 35 U.S.C. § 112, first paragraph, by describing how to make and use the films (including their use as a label) by describing and demonstrating the physical characteristics (in particular the regulation of the relative thicknesses of the non-voided layers) which are required to produce the desired advantages of the invention. These advantages are obtained due to the selected ratios and thus enablement of films which contain these ratios enables one to make and use the films of the invention which inherently have the anti-curling advantage. This anti-curling advantage is an inherent feature of the physical characteristics which are required to practice this invention and these physical characteristics, as noted above, are clearly enabled by the specification.

The examiner has rejected claims 13-36 under 35 U.S.C. § 103(a). In rejecting the claims the examiner states:

Claims 13-36 are rejected under 35 U.S.C. § 103(a) as being unpatentable over WO 96/34742 (Crighton et al.-490 is cumulative) taken either individually or for claims 17-20 and 32 in view of Crighton et al.-601 and for claims 21-24, 27 and 23 in view of Carespodì.

In rejecting the claims the examiner notes that the ratios recited in the last two lines of independent claims 13 and 28 relates to structures that have little or no curl and that such a limitation "is believed to be, if not inherent in the reference

disclosure an obvious structural design that the examiner believes is well within the ordinary skill of the art."

Before discussing the rejection, applicant wishes to remind the examiner that the anti-curling effect of the present invention is achieved solely by regulating the relative thicknesses of the two non-voided layers on either side of the voided core layer. In particular the ratio of the combined thickness of the non-voided layers on the respective surfaces of the core layer must be from 2:1 to 1:1. Thus, in the embodiment of the invention which includes only one non-voided layer on each side of the voided core layer, the ratio of thickness of one non-voided layer to the other non-voided layer must be from 2:1 to 1:1. Likewise, when the film includes two or more non-voided layers on each side of the voided core, the ratio of the combined thickness of the non-voided layers on the respective surfaces of the core layer is from 2:1 to 1:1. In this regard it is to be noted that examples 1-4 illustrate a film which contains five layers (i.e., a core layer containing an intermediate and an outer layer on one side thereof and an intermediate layer and an outer layer on the other side thereof). In each of these examples the ratio of the combined thickness of the non-voided layers on the respective surfaces of the core layer is within the range 2:1 to 1:1. For example, the combined thickness of the intermediate and outer layers on one side of the film of example 1 is 4.5 microns (3.0 microns for the intermediate layer and 1.5 microns for the outer layer). The other non-voided layers of example 1 have a combined thickness of 4.0 microns (2.0 microns for the intermediate layer and 2.0 microns for the outer layer). Thus the ratio of the combined thickness of the non-voided layers on the respective surfaces of the core layer in example 1 is 4.5:4 (1.125).

All of the examples of the invention exhibit zero curl in the curl tests whereas comparative example 5 exhibited a substantial tendency for curling since

the ratio of thicknesses of the two non-voided outer layers on the voided core layer was 2.25:1 which lies outside of the claimed range.

Applicant submits that contrary to the examiner's observation, none of the references relied upon by the examiner disclose or suggest that the anti-curl resistance of applicant's labels can be achieved by solely regulating the relative thicknesses of the non-voided layers located on either side of a voided core layer.

WO 96/34742 discloses a film which includes a voided core layer with non-voided layers located on either side thereof. However, this reference is not concerned with addressing the problems of curling which may occur in the films described therein. Furthermore, this reference does not even remotely disclose or suggest any solution to this problem, no less the particular solution discovered by applicant which involves regulating the relative thicknesses of the non-voided layer or layers located on either side of the voided core layer.

The second reference (Crighton et al. '601) which the examiner has applied particularly to claims 17-20 and 32, likewise fails to disclose or suggest the selection of the relative thicknesses of the non-voided layers to achieve the desired anti-curling benefit. None of the films disclosed by this reference contain non-voided layers on either side of a voided layer wherein the non-voided layers have the thickness ratios required by applicant's invention. Furthermore, this reference does not recognize any curling problem and therefore provides absolutely no solution to this particular problem.

Carespodì pertains to a laminate for making a container lid, not film for making a label. In addition, the layers used by Carespodì are laminated together

by using an adhesive. In contrast, independent claim 28 requires coextrusion of the layers.

Carespodi recognizes that non-voided layers which are adhesively secured to a voided core layer tends to curl when subjected to heat. Carespodi addresses the problem of heat curl associated with his laminated structures where the lamina are secured to each other with an adhesive. Furthermore, Carespodi is only concerned with curl which arises when the laminate is subjected to heat whereas the curl problem addressed by applicant's invention relates to curl when the label is put into a mold where no heat has yet been applied. Therefore, although both inventors talk about curl, it is not the same problem which is being addressed.

In addition, Carespodi reduces curl in his laminate by applying identical layers on both sides of his base film to thereby create a balanced structure. Carespodi emphasizes that the symmetrical structure is very important (column 3, lines 1 to 5 and lines 59 to 61; column 5, lines 29 to 35). Thus, Carespodi's solution to the curl problem of the laminate is to apply identical films on top of a known oriented film.

*applic  
lamin  
identical  
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voided* Carespodi's approach is to therefore use identical films on either side of the core layer. Thus, Carespodi has failed to appreciate that the curling problem identified by applicant can be corrected without requiring that the two non-voided layers must be identical.

The examiner has particularly directed applicant's attention to figure 1 of Carespodi. Figure 1 illustrates two non-voided layers 14 and 18 on either side of voided layer 12. However, figure 1 also shows additional adhesive layers 16 and

obvious system will still work

20 (which are not voided) located respectively on either side of the voided layer 12 as well as an additional heat sealing layer 22 (not voided) located on one side of the structure. Thus, one side of Carespodi's structure depicted in figure 1 includes non-voided layers 20, 18 and 22 while the other side includes non-voided layers 14 and 16. Although Carespodi requires that layers 14 and 18 should be identical with one another, he does not disclose or suggest that a specific ratio should exist between the thickness of combined layers 20, 18 and 22 and combined layers 14 and 16. In contrast, claim 13 specifically recites "the ratio of the **combined thicknesses** of the non-voided layers on the respective surfaces of the core layer being from 2:1 to 1:1".

compar data shows expected results

In view of the above, it is clear that none of the disclosed references specifically disclose the critical ratios required in the last two lines of claims 13 and 28. Furthermore, any finding of obviousness concerning the selection of the ratios used by applicant, is clearly rebutted by the comparative data shown in applicant's specification. In this regard it is to be noted that applicant has made a comparison between the films of the invention (examples 1-4) and a comparison film (example 5). Examples 1-4 utilize the ratios recited in applicant's independent claims (claims 13 and 28). Comparison example 5 uses a ratio which lies outside of this range (2.25:1). It is noted in the specification that the films of the invention (examples 1-4) showed no curl in the curl test which is described on page 5 of the specification. In contrast, the comparative film of example 5 showed a curl toward the printed face. Thus the comparative data contained in the specification shows unexpected benefits achieved with applicant's invention. In this regard applicant wishes to remind the examiner that comparative examples set forth in the specification which show unexpected results overcome any presumption of obviousness (*ex parte* Drewe et al. 203 USPQ 1127).



In rejecting the claims under 35 U.S.C. § 103, the examiner gives weight to the characterization of the invention as a label. However, the examiner believes that cutting a packaging film into segments or sections and using the sections as labels would be well within the ordinary skill of the art. Applicant most respectfully disagrees with the examiner on this point.

Making label films is a different art from making packaging films. Of course opp (oriented polypropylene film) packaging and opp labels have some technology in common, but by no means can you take any packaging film for labeling and vice versa every label grade for packaging. It is for this reason that the major manufacturers of these types of films (Mobil and Trespaphan) offer label film and packaging film as different products. They do not sell film and offer the purchaser to buy it for either packaging or for labeling purposes. Instead, they clearly advertise these products in different categories.

Furthermore, the technical requirements for a film to perform as a label film are different from what a packaging film must do. Packaging films are always used and converted as a roll until the film is shaped into a final pack. Packaging films are long sheets which are rolled up. The roll may be used for printing and the roll may be cut to smaller widths. However, regardless of how it is cut or printed, you always use the roll for packaging a product. Packaging film must have good runability and it must slide without jamming over the parts of the printing and packaging machinery. In addition it must have good sealability to give good and tight seals and the film may not interfere with the packaged goods since you do not want any plastic taste from the film on food which is packaged with the film.

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For a label the technology applied is different. As the examiner realizes a film is cut into segments to make a label and that such sheets can curl. Such curling is not applicable to packaging films or other films which are rolled into a big roll. Curling is a problem which does not exist with packaging films. The cut labels are stacked and in the label process single sheets of label must be destacked. This is because you do not want the machinery to grab more than one label sheet. This type of problem is not applicable for packaging film.

In view of the above, applicant submits that one skilled in the art would not consult the teaching of references which pertain to packaging film technology to solve problems associated with label film technology and further any finding of obviousness is rebutted by the unexpected results demonstrated in the specification.

Lastly, the examiner has rejected claims 28-33 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. patent no. 6,306,490. In response to this rejection applicant submits herewith a terminal disclaimer to obviate this rejection.

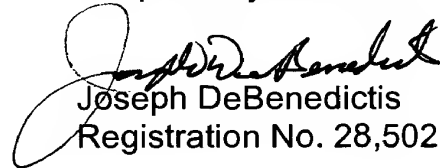
In view of the above arguments, applicant respectfully requests reconsideration and allowance of all the claims which are currently pending in the application.

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